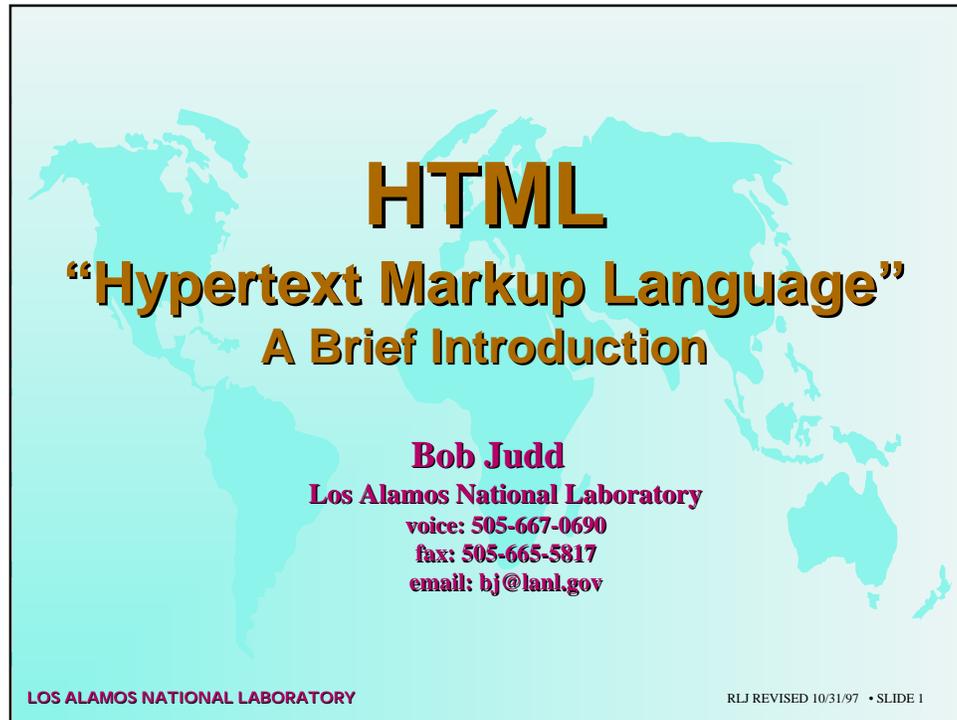


HTML introduction



HTML
“Hypertext Markup Language”
A Brief Introduction

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HTML introduction



HTML introduction

HTML: what is it?

- ◆ Hypertext Markup Language (HTML)
 - World Wide Web (WWW) hypertext standard
 - Follows Standard Generalized Markup Language (SGML) format conventions
- ◆ Source file is a simple ASCII text file
 - Simple ASCII text file with embedded commands
 - You can use your favorite text editor
 - Works on all computer systems
- ◆ Commands elements are encoded as *<tagnames>*

HTML introduction

HTML: tools

- ◆ Editor to create HTML source file
 - Filename extension is usually “.html” or “.htm”
 - Any simple text editor will work
 - ◆ VI, PICO, EMACS, BBEedit, SimpleText, Notepad, etc.
 - Word processor that will save in “text” mode
 - ◆ MS Word, ClarisWorks, WordPerfect, FrameMaker, etc.
 - Many “WYSIWYG” editors are emerging
 - ◆ PageMill, Sitemill, etc.
 - ◆ “save as HTML” feature in MS Word 6.0, ClarisWorks 4.0, etc.
- ◆ Browser for viewing pages
 - Netscape™, Internet Explorer, NCSA Mosaic™, Lynx, etc.

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HTML introduction

HTML: development steps

- ◆ Step 1: open/create HTML source file with editor
 - Create/open file with editor
 - Enter/edit text
 - Save file (crucial step)
- ◆ Step 2: open/reload source file with browser to view
 - Usually this is a “local” file
 - May be open through a WWW server
- ◆ Step 3: revise by repeating steps 1 & 2 until satisfied

HTML introduction

HTML Exercise 1

- ◆ Startup your text editor
 - on Windows start **Notepad**
 - on Macintosh start **SimpleText** or **TeachText**
- ◆ Enter this simple HTML document:

```
<HTML>
This is my first HTML document
</HTML>
```
- ◆ Save this document as “**sample1.htm**”
- ◆ Open local file “**sample1.htm**” with **Netscape**

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HTML introduction

HTML Exercise 1

<HTML>

This is my first HTML document

</HTML>



HTML introduction

HTML: elements (commands)

- ◆ HTML standards are evolving
 - HTML 3.2 is current “definitive” standard
 - HTML 4.0 is under development
 - Older browsers follow older version of standard
 - Some browsers have “unique” elements
- ◆ Browser decides how element is represented
 - “Look” will vary on different browsers & systems
 - Some standards in representation can be expected
 - Some browsers will not interpret an element

HTML introduction

HTML: elements (or commands)

- ◆ Elements are encoded as **<tagname>**
 - defined by left & right angle brackets (<>)
 - case independent, e.g. **<TaGnAmE>**
 - ◆ exceptions are filenames or network resource names
 - *usually* mark a block of text
 - ◆ **<tagname>** to begin block of text
 - ◆ **</tagname>** to end block of text
- ◆ Complex elements have options or attributes
 - These are space delimited
 - Some are required but many are optional

HTML introduction

HTML: document structure

- ◆ **<HTML>** *document* **</HTML>**
 - indicates start & end of an HTML document
- ◆ **<HEAD>** *heading text* **</HEAD>**
 - indicates start & end of heading information
- ◆ **<BODY>** *full formatted document page* **</BODY>**
 - indicates start & end of document text
 - in Netscape™ only
 - ◆ **BGCOLOR=***value* argument for background color
 - ◆ **BACKGROUND=***"URL"* argument for background image

HTML introduction

HTML: heading & general

- ◆ **<TITLE>** *document title* **</TITLE>**
 - title of document displayed on browser's titlebar
- ◆ **<!--** *text of your comment* **-->**
 - included within source of document but never displayed

HTML introduction

HTML: document format

◆ **<P ALIGN=CENTER>** *paragraph contents* **</P>**

- normal format is **<P>** *text of your paragraph* **</P>**
- historical usage is **<P>** to just mark the beginning
- options: **ALIGN = CENTER, LEFT, or RIGHT**

◆ **
** line break

- options: **CLEAR = LEFT, RIGHT, or ALL**

◆ **<HR>** horizontal rule

- options: **SIZE = n, WIDTH = n%, NOSHADE**
ALIGN = CENTER, LEFT, or RIGHT

HTML introduction

HTML Exercise 2

- ◆ Enter simple HTML document template from “Quick Reference” sheet

```
<HTML><HEAD><TITLE>This is the page title</TITLE>
```

```
</HEAD><BODY BGCOLOR=#FFFFFF>
```

```
<H1>This is a section heading</H1>
```

```
<P>This is the text of the body of the page and contains other HTML  
formatting elements and hypertext references and images</P>
```

```
<HR><ADDRESS>your name, address, credit info</ADDRESS>
```

```
</BODY></HTML>
```

- ◆ Save this document as “**sample2.htm**”
- ◆ Open local file “**sample2.htm**” with **Netscape**

HTML introduction

HTML Exercise 2

```
<HTML><HEAD><TITLE>This is the page title</TITLE>
</HEAD><BODY BGCOLOR=#FFFFFF>
<H1>This is a section heading</H1>
<P>This is the text of the body of the page and contains other HTML
formatting elements and hypertext references and images.</P>
<HR><ADDRESS>your name, address, credit info</ADDRESS>
</BODY></HTML>
```



HTML introduction

HTML: section heading

- ◆ **<Hn ALIGN=CENTER>** *centered heading text* **</Hn>**
 - HTML allows six levels of headings marked by labels
 - ◆ Examples: **<H1>** This is a level 1 heading **</H1>**
 <H6> This is a level 6 heading **</H6>**
 <H3 ALIGN=CENTER> Centered level 3 heading **</H3>**
 - No forced hierarchy, levels can be in any order
 - Font size and style vary with level
 - ◆ Level 1 is largest font size, Level 6 is smallest
 - options: **ALIGN = LEFT, CENTER, or RIGHT**
default value is **LEFT**

HTML introduction

HTML: text formatting

- ◆ ` text ` bold text
- ◆ `<I> text </I>` italicized text
- ◆ `<U> text </U>` underlined text
 - ignored in some browsers (e.g. Netscape™)
- ◆ `<TT> text </TT>` typewriter text
 - usually a fixed width font such as courier
- ◆ ` text `
 - specify font color, size, and other attributes

HTML introduction

HTML: text formatting

- ◆ **<BLOCKQUOTE>** *quotations* **</BLOCKQUOTE>**
 - use to indent a block of text
- ◆ **<PRE>** *pre formatted text* **</PRE>**
 - usually in fixed-width font such as courier
 - option **WIDTH=number_characters** to set width of text
- ◆ **<ADDRESS>** *address information* **</ADDRESS>**
 - address information, signatures, authorship
 - usually italicized
- ◆ **<CENTER>** *centered text* **</CENTER>**
 - only operative in Netscape™ browser

HTML introduction

HTML: text formatting

- ◆ **** *emphasized text* ****
- ◆ **** *stronger emphasized* ****
- ◆ **<CODE>** *computer code* **</CODE>**
 - usually fixed-width font
- ◆ **<CITE>** *citation* **</CITE>**
 - typically italicized
- ◆ **<SAMP>** *literal characters* **</SAMP>**

HTML introduction

HTML: text formatting

- ◆ **<KBD>** *keyboard text* **</KBD>**
 - usually bold, fixed width
- ◆ **<VAR>** *variable name* **</VAR>**
 - usually italicized
- ◆ **<DFN>** *definition text* **</DFN>**
 - often bold and italicized

HTML introduction

HTML Exercise 3

- ◆ Edit “**sample2.htm**” to include basic formatting elements such as:

****bold text****

<I>italics**</I>**

<U>underlined text**</U>**

<BLOCKQUOTE>block quoted text**</BLOCKQUOTE>**

- ◆ Save this document as “**sample3.htm**”
- ◆ Open local file “**sample3.htm**” with **Netscape**

HTML introduction

HTML Exercise 3

```
<HTML><HEAD><TITLE>This is the page title</TITLE>
</HEAD><BODY BGCOLOR=#FFFFFF>
<H1>This is a section heading</H1>
<P>This is the text of the <B>body</B> of the page and contains other <U>HTML</U>
<BLOCKQUOTE>formatting </BLOCKQUOTE>elements and <I>hypertext</I>
references and images.</P>
<HR><ADDRESS>your name, address, credit info</ADDRESS>
</BODY></HTML>
```



HTML introduction

HTML: lists

- ◆ Two different types of formatted list
 - Standard list elements (**OL**, **UL**, **MENU**, **DIR**)
 - Definition list element (**DL**)
- ◆ May be nested & mixed
- ◆ New options for these lists

HTML introduction

HTML: standard lists

- ◆ Lists are formatted as:

```
<list_tagname>
```

```
<LI> list item 1
```

```
<LI> list item 2
```

```
</list_tagname>
```

- ◆ *list_tagname* may be:

OL for ordered (numbered) lists

UL for unordered (bullets) lists

DIR for directory lists

MENU for menu lists

HTML introduction



HTML: standard lists

◆ Examples:

```
<OL>  
<LI> ordered list item 1  
<LI> ordered list item 2  
<LI> ordered list item 3  
</OL>  
<UL>  
<LI> unordered list item 1  
<LI> unordered list item 2  
</UL>
```

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HTML introduction

HTML: definition lists

- ◆ Definition lists are formatted as:

<DL>

<DT> *list item 1*

<DD> *list item 2*

</DL>

- ◆ Where:

- **<DL>** *complete list content* **</DL>** defines the full list
- **<DT>** defines the “term” (usually a single line)
- **<DD>** defines the “definition” (may be multiple lines)
 - ◆ indented from **<DL>** & **<DT>** elements

HTML introduction

HTML Exercise 4

- ◆ Edit “sample3.htm” to include lists:
 - `ApplesOrangesBananas`
 - `ApplesOrangesBananas`
 - `<DL><DT>Fruits<DD>Apples<DD>Oranges<DD>Bananas</DL>`
- ◆ Save this document as “sample4.htm”
- ◆ Open local file “sample4.htm” with Netscape

HTML introduction

HTML Exercise 4

```
<HTML><HEAD><TITLE>This is the page title</TITLE>
</HEAD><BODY BGCOLOR=#FFFFFF>
<H1>This is a section heading</H1>
<P>This is the text of the <B>body</B> of the page and contains other <U>HTML</U>
<BLOCKQUOTE>formatting </BLOCKQUOTE>elements and <I>hypertext</I>
references and images.</P>
<UL><LI>Apples</LI><LI>Oranges</LI><LI>Bananas</LI></UL>
<OL><LI>Apples</LI><LI>Oranges</LI><LI>Bananas</LI></OL>
<DL><DT>Fruits</DT><DD>Apples</DD><DD>Oranges</DD><DD>Bananas</DD></DL>
<HR><ADDRESS>your name, address, credit info</ADDRESS>
</BODY></HTML>
```

HTML introduction

HTML Exercise 4

This is a section heading

This is the text of the body of the page and contains other HTML.

formatting

elements and attributes: references and images.

- Apples
- Oranges
- Bananas

1. Apples
2. Oranges
3. Bananas

Fruits

Apples
Oranges
Bananas

your name, address, credit info

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HTML introduction

HTML: URL (uniform resource locator)

◆ Structure for a URL is

– **protocol** **://** **server** **[: port]** **resource**

- ◆ **protocol:** resource protocol type
e.g. http, file, ftp, gopher, etc.
- ◆ **server:** Internet system name for server
e.g. www.address.gov
- ◆ **port:** TCP port number for resource
e.g. 80 (for http) (optional)
- ◆ **resource:** pathname for resource on server
e.g. /path/subdir/file.ext

HTML introduction

HTTP: URL (uniform resource locator)

- ◆ types (must have browsers fully configured)
 - http** (Hypertext Transfer Protocol server)
 - ftp** (anonymous File Transfer Protocol server)
 - mailto** (send mail to a designated Internet mail address)
not supported by all servers
 - file** (local file access)
 - telnet** (terminal link protocol server)
 - gopher** (gopher protocol server)
 - news** (newsgroups via NNTP protocol server)
 - wais** (Wide-Area Information Servers protocol)

HTML introduction

HTTP: URL (uniform resource locator)

◆ Examples

<http://www.lanl.gov>

<http://education.lanl.gov>

<gopher://gumby.brain.headache.edu:151/7fonebook.txt>

<ftp://internet.addr.edu/path/splunge.txt>

<ftp://username:passwd@internet.addr.edu/dir1/file.txt>

<mailto:username@internet.addr.edu>

<news:news.group>

<wais://wais.server.edu/database?search>

HTML introduction

HTML: image tag

- ◆ ****
 - **SRC** points to graphics file
 - ◆ pointer is a URL (maybe a pathname to a local file)
 - ◆ inline must be GIF, JPEG, X-bitmaps, or X-pixelmaps
 - **ALT** is alternative text instead of image
 - option **ALIGN** to specify alignment with neighboring text
 - ◆ **TOP, MIDDLE, or BOTTOM**
 - ◆ currently only Netscape™ adds **RIGHT & LEFT**
 - wraps text around images

HTML introduction

HTML Exercise 5

- ◆ Edit “sample4.htm” to include an image:

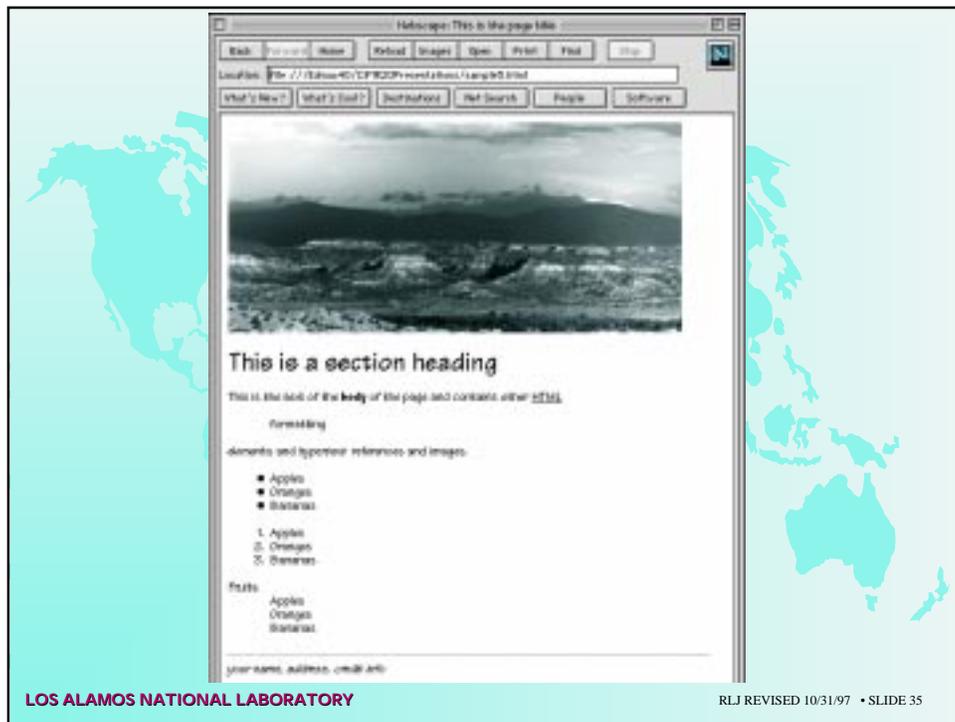
```
<IMG SRC="http://education.lanl.gov/gifs/jemez.gif"  
ALT="LANL IMAGE" ALIGN=BOTTOM>
```
- ◆ Save this document as “sample5.htm”
- ◆ Open local file “sample5.htm” with Netscape

HTML introduction

HTML Exercise 5

```
<HTML><HEAD><TITLE>This is the page title</TITLE>
</HEAD><BODY BGCOLOR=#FFFFFF>
<IMG SRC="http://education.lanl.gov/gifs/jemez.gif"
ALT="LANL IMAGE" ALIGN=BOTTOM>
<H1>This is a section heading</H1>
<P>This is the text of the <B>body</B> of the page and contains other <U>HTML</U>
<BLOCKQUOTE>formatting </BLOCKQUOTE>elements and <I>hypertext</I>
references and images.</P>
<UL><LI>Apples</LI><LI>Oranges</LI><LI>Bananas</LI></UL>
<OL><LI>Apples</LI><LI>Oranges</LI><LI>Bananas</LI></OL>
<DL><DT>Fruits</DT><DD>Apples</DD><DD>Oranges</DD><DD>Bananas</DD></DL>
<HR><ADDRESS>your name, address, credit info</ADDRESS>
</BODY></HTML>
```

HTML introduction



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HTML introduction

HTML: hypertext anchor tag

- ◆ **** *hypertext string* ****
 - creates a hypertext link, click on *hypertext string* to jump
 - optional *#value* is a named link defined within the *URL*
 - hypertext string may contain ****
 - example:
**** LANL ****
- ◆ **** *link text* ****
 - defines a location by name for link within the document
 - examples:
**** *text* **** defines link location
**** *text* **** creates link to "section1"

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HTML introduction

HTML Exercise 6

- ◆ Edit “sample5.htm” to include an hypertext link:
`Los Alamos`
- ◆ Save this document as “sample6.htm”
- ◆ Open local file “sample6.htm” with Netscape

HTML introduction

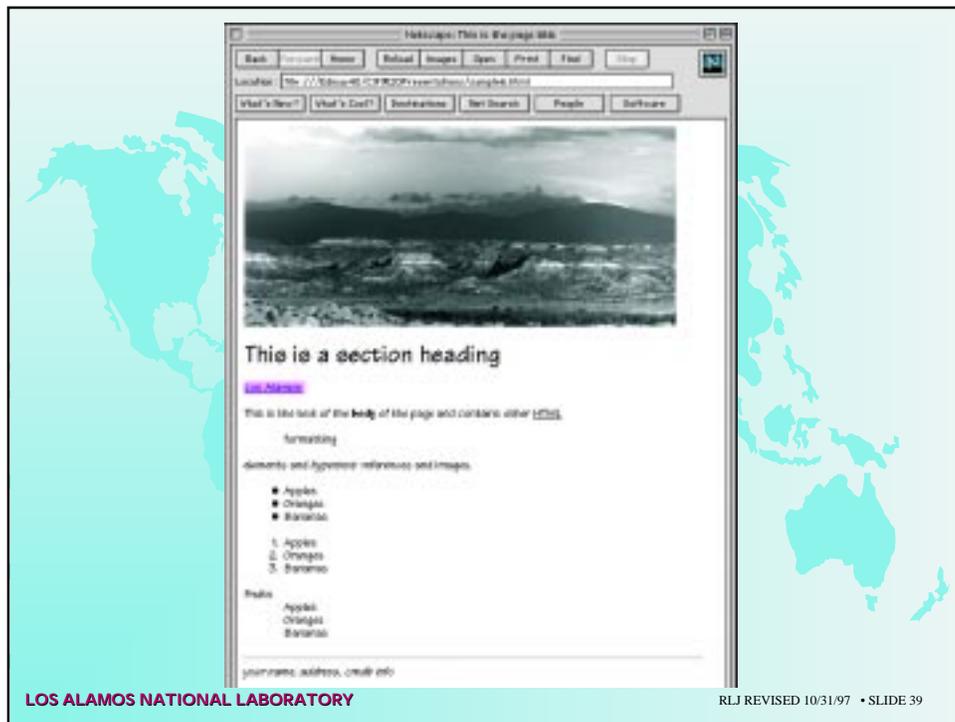
HTML Exercise 6

```
<HTML><HEAD><TITLE>This is the page title</TITLE>
</HEAD><BODY BGCOLOR=#FFFFFF>
<IMG SRC="http://education.lanl.gov/gifs/jemez.gif"
ALT="LANL IMAGE" ALIGN=BOTTOM>
<H1>This is a section heading</H1>
<A HREF="http://www.lanl.gov">Los Alamos</A>
<P>This is the text of the <B>body</B> of the page and contains other <U>HTML</U>
<BLOCKQUOTE>formatting </BLOCKQUOTE>elements and <I>hypertext</I>
references and images.</P>
<UL><LI>Apples</LI><LI>Oranges</LI><LI>Bananas</LI></UL>
<OL><LI>Apples</LI><LI>Oranges</LI><LI>Bananas</LI></OL>
<DL><DT>Fruits</DT><DD>Apples</DD><DD>Oranges</DD><DD>Bananas</DD></DL>
<HR><ADDRESS>your name, address, credit info</ADDRESS>
</BODY></HTML>
```

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HTML introduction



HTML introduction

HTML: tables

- ◆ Tables may be formatted as:
 - **<TABLE>** *table contents* **</TABLE>** for table definition
 - ◆ optional **BORDER=*n*** to turn on border around table
 - n* is the value of the line weight of border, **0** is no border
 - **<TR>** *table row contents* **</TR>** for table row
 - **<TH>** *table header contents* **</TH>** for table header
 - **<TD>** *table cell contents* **</TD>** for table data
 - There are several options to some of these commands that allow control over alignment, span, width, and other formatting parameters

HTML introduction

HTML Exercise 7

- ◆ Edit “sample6.htm” to include an hypertext link:

```
<TABLE BORDER=1>  
<TR><TD>Apples</TD><TD>Oranges</TD><TD>Bananas</TD></TR>  
<TR><TD>Red</TD><TD>Green</TD><TD>Blue</TD></TR>  
</TABLE>
```
- ◆ Save this document as “sample7.htm”
- ◆ Open local file “sample7.htm” with Netscape

HTML introduction

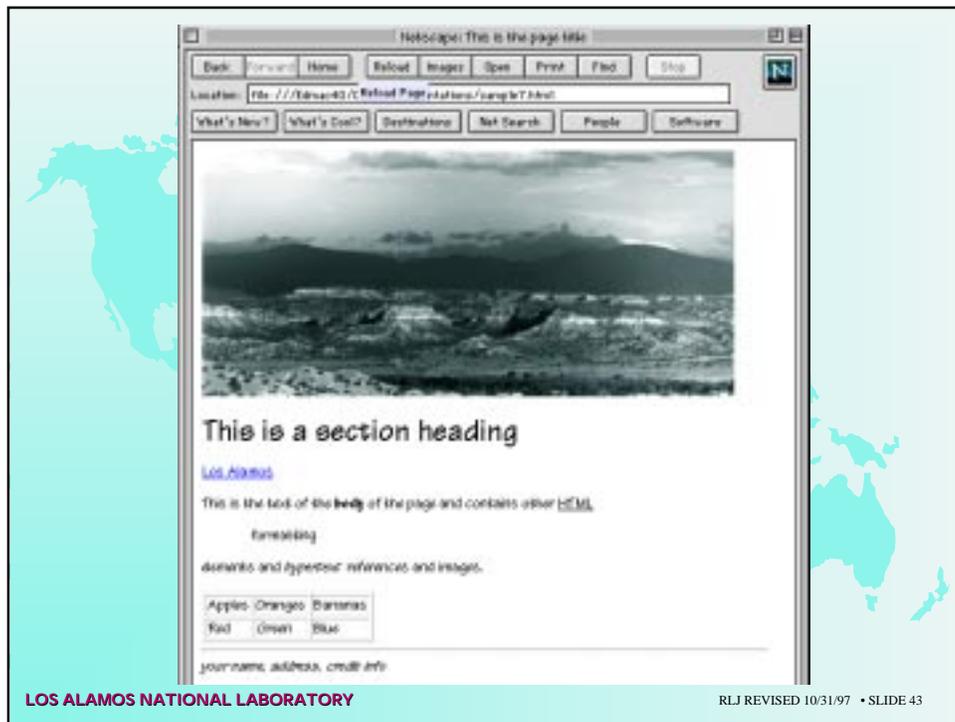
HTML Exercise 7

```
<HTML><HEAD><TITLE>This is the page title</TITLE>
</HEAD><BODY BGCOLOR=#FFFFFF>
<IMG SRC="http://education.lanl.gov/gifs/jemez.gif"
ALT="LANL IMAGE" ALIGN=BOTTOM>
<H1>This is a section heading</H1>
<A HREF="http://www.lanl.gov">Los Alamos</A>
<P>This is the text of the <B>body</B> of the page and contains other <U>HTML</U>
<BLOCKQUOTE>formatting </BLOCKQUOTE>elements and <I>hypertext</I>
references and images.</P>
<TABLE BORDER=1 ><TR><TD>Apples</TD><TD>Oranges</TD>
<TD>Bananas</TD></TR><TR><TD>Red</TD><TD>Green</TD>
<TD>Blue</TD></TR></TABLE>
<HR><ADDRESS>your name, address, credit info</ADDRESS>
</BODY></HTML>
```

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HTML introduction



HTML introduction

HTML: multimedia formats

- ◆ Several different multimedia formats
- ◆ Server determines transfer mode
 - Binary or ASCII text mode determined by file extension
- ◆ MIME compliant
- ◆ Types include:
 - images (GIF, JPEG, & TIFF formats popular)
 - sound (AU, SND are popular sound formats)
 - movies (MPEG & QuickTime® formats)
 - compression/archiving/encoding formats

HTML introduction

HTML references books

- ◆ *HTML Sourcebook (third edition)* - Ian Graham
ISBN 0-471-17575-7 \$29.95
- ◆ *The Advanced HTML Companion* - Schengili-Roberts
ISBN 0-12-623540-6 \$29.95
- ◆ *The Project Cool Guide to HTML* - Martin & Davis
ISBN 0-471-17371-1 \$19.99

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HTML design references

- ◆ *Designing Visual Interfaces* - Mullet & Sano
ISBN 0-13-303389-9
- ◆ WWW sites for good HTML design & style tips
<http://www.dsiegel.com/tips/index.html>
<http://ds.dial.pipex.com/pixelp/wpdesign/wpdintro.htm>
<http://union.ncsa.uiuc.edu/HyperNews/get/www/style.html>
http://home.netscape.com/assist/net_sites/
<http://home.netscape.com/people/hagan/chi96/>
<http://www.cnet.com/Content/Features/Howto/Design/>

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Thanks!

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